

Louisiana Delta Community College
Expanded Course Syllabus.Physics 221

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Office Hours 1:00 PM-3:00PM Wed or by appointment

1. Course Name: General Physics II Lab

2. Course Prefix and Number: PHYS 221

3. Course Description: Laboratory designed to accompany PHYS 220, General Physics II; Laboratory activities are used to enhance the content and learning outcomes established for PHYS 220 related to optics, electricity, magnetism, and other topics of modern physics.

4. Credit hours: 1

5. Prerequisites and Co-requisites: Concurrent enrollment in or successful completion of PHYS 220, General Physics II, with a grade of C or higher.

6. Text: *College Physics Lab Manual*

Author: Wilson, Buffa

Publisher: Prentice Hall

6th Edition

YOU WILL NEED:

1 Spiral single subject notebook, Calculator (TI-30 or above), sharp pencils, fine line (0.5mm)pen, small plastic metric ruler,

8. Learning Outcomes: On completion of this course, the student will be able to:

1. Relate electric charge to atomic structure and describe the forces between charged bodies.
2. State and apply Coulomb's Law.
3. Define and calculate and electric field.
4. Identify parts of an electric circuit.
5. Compare a series and a parallel circuit and calculate equivalent resistance in a circuit.
6. State and apply Ohm's Law
7. Describe how electrical energy is calculated.
8. State and apply Kirchoff's Rules
9. Define capacitance.
10. Calculate the equivalent capacitance and the energy stored by a capacitor.

11. Define dielectric, conductors, and insulators.
12. State and apply the Biot-Savart Law.
13. Describe magnetism and the behavior of magnetic poles.
14. Describe the Earth's magnetic field lines of force.
15. Relate magnetic field and magnetic field lines of force.
16. Calculate the magnetic field of solenoids and torpids
17. Calculate the magnetic force of current carrying wires.
18. State the relationship between work, energy, EMF, and potential difference.
19. State and apply Lenz's Law & Faraday's Law.
20. State the laws of light reflection.
21. Apply the lens equation.
22. Define the Index of Refraction of a medium, state and apply Snell's Law.
23. Demonstrate mastery of the terminology pertaining to lenses, rays, images, and magnification.
24. State properties of electromagnetic waves and how they are produced
25. Explain Einstein's two basic postulates that are the foundation of the Theory of Relativity.
26. Know the structure and properties of atoms and nuclei.
27. Describe the types and properties of radioactivity.
28. Explain the types of nuclear reactions.

9 and 11. Tentative course schedule for semester (by day or week)

- 1. Orientation, Safety, data analysis and error reporting.**
- 2. Various properties of metals**
- 3. Basic lens measurements**
- 4. Ohm's Law**
- 5. Simple circuits#1**
- 6. Electric generator**
- 7. The oscilloscope**
- 8. Conductivity**
- 9. Basic radioactivity**
- 10. Simple circuits#2**

10. Evaluation/Assessment Measures:

- a. Examinations/quizzes
- b. Activities/projects
- c. Research
- d. Evaluation and Grading System:

Grading Scale (example)

90 – 100 A

80 – 89 B

70 – 79 C

60 – 69 D

0 - 59 F

When in Lab:

1. Don't begin the exercise until the laboratory instructor gives you specific instructions. The exercise may be modified.
2. Stay focused as you work. If you stay busy, you'll be able to finish each exercise within the allotted time.
3. Discuss your observations, results, and conclusions with your instructor and lab partners.
4. Always follow instructions and safety guidelines.
5. If you have questions, ask the instructor.

Laboratory Safety Rules:

1. No eating, drinking, or chewing in the laboratory.
2. Hands must be washed every time you enter or exit the lab.
3. Laboratory tables must be disinfected at the beginning and at the end of each lab period.
4. Book bags do not belong on the lab benches.
5. All stools are to be placed under the tables at the end of lab.
6. All drawers are to be shut before leaving lab.
7. If glass is broken, do NOT pick it up. Notify the instructor.
8. Notify the instructor of any spill, no matter how minor.
9. Any injury must be reported to the instructor immediately.
10. All hazardous/biological waste must be placed in the biohazard waste container.
11. No item may be removed from the lab without the instructor's permission.
12. Microscopes must be handled with the utmost care. Students must adhere to the acceptable practices of using the microscopes.
13. Take notice of exits, fire extinguishers, and the eye-wash station.

12. College and Classroom Polices

A. Students with Disabilities

The Office of Student Counseling and Disability Services coordinates campus-wide efforts to provide services and accommodations for students with disabilities. In compliance with the American Disabilities Act (ADA), students with documented disabilities who need course accommodations, have emergency medical information or require special arrangements for building evacuation should contact the instructor within the first two weeks of class at the number or office listed above.

B. Attendance

Attendance policies correspond to those listed in the *Delta Academic Catalog*. Class attendance is regarded as an obligation as well as a privilege, and all students are expected to attend regularly and punctually all classes in which they are enrolled. A student shall submit written excuses for all class absences to the appropriate instructor within three class days after the student returns to the respective class. Students are responsible for all class work missed regardless of the reason for the absence.

D. Academic Support Services: Delta provides students with resources and support outside of the classroom through the Library/LRC in Coenen 150 (<http://www.ladelta.cc.la.us/library>) and a Student Success Center which provides workshops, resources, and tutorial support.

E. Electronic Devices/Other noise-making devices

Cellular telephones, beepers, and other noise-making devices must be turned off during class time. If this policy is not adhered to, you will be asked to leave the room to avoid further interruptions.

F. Safety Regulations

No firearms, weapons, tobacco products, alcoholic beverages, or illegal drugs are permitted in the classroom. In the event you do not adhere to this policy, you will be asked to leave the classroom and expulsion from the college is possible.

C. Academic Integrity

Louisiana Delta Community College upholds standards of academic integrity of its students and faculty. Academic integrity is essential to assure learning through assessment. Students are responsible for being aware of and adhering to academic rules and regulations for the college and classroom as defined in the *Delta Academic Catalog* and *Delta Student Handbook*. Academic dishonesty includes but is not limited to cheating, fabrication, plagiarism, interference, misrepresentation, violation of class rules, and fraud. Identified instances of academic misconduct or dishonesty warrant disciplinary actions by the instructor or college. Please refer to Delta's *Student Handbook* for more information.

LOUISIANA DELTA COMMUNITY COLLEGE CODE OF STUDENT CONDUCT

All members of the College community are expected to respect the principles of honesty and mutual trust embodied in the honor code. Students are responsible for preparing their own written work in every class unless specifically permitted by the instructor to combine efforts on an assigned project. Students are expected to understand the meaning of plagiarism and to avoid all suspicion of plagiarism in papers prepared. Furthermore, students are expected neither to sanction nor tolerate violation of the honor code by others.

Students will not give or receive any unauthorized aid on any examination or paper. If a student witnesses anyone else doing so, that student must be reported immediately to the faculty member and/or the appropriate College administrator.

ACADEMIC MISCONDUCT

Types of Academic Misconduct (1.01)

Although all academic misconduct is wrong, premeditated acts of academic misconduct represent a greater threat to the integrity of the College than do unpremeditated acts of academic misconduct.

Categories of Academic Misconduct (1.02)

Cheating is the intentional use of inappropriate assistance, information, materials, or study aids in any academic exercise. Cheating includes the use of unauthorized assistance, information, or materials on tests, homework, quizzes, papers, projects, and all other academic assignments. Additionally, students who provide such unauthorized assistance are also guilty of cheating.

Fabrication is defined as altering official college documents, forging signatures of college officials or other individuals, or changing grades and other academic records. Fabrication also includes submitting false records to gain admission to the College. Furthermore, any oral or written misrepresentation of truth in any communication with College administrators, faculty, or staff is also fabrication.

Plagiarism involves submitting another person's ideas, words, data, arguments or sentence structure as the student's own without proper documentation.

Misrepresentation is intentionally presenting oneself as someone else, or intentionally misrepresenting a condition or situation to gain credit or concessions on academic work, including make-up tests, projects, and class assignments.

Violation of class rules is the intentional failure to follow the class policies concerning assignments and behavior.

Other forms of academic misconduct include **complicity**, the willing involvement with others in any academic misconduct; **software fraud**, the unlawful downloading and copying of computer software used in the creation of academic work; and **multiple submissions of work**, handing in academic work that was done previously by the student for another class, or by someone else.

Disciplinary Sanctions for Academic Misconduct (1.03)

Depending on the type of violation, the number of times a student has committed an offense, and the discretion of the instructor, penalties may include any combination of the following:

1. Loss of partial credit for the assignment.
2. Reduced grade for the course.
3. Grade of "F" for the course.
4. Zero assigned to test or assignment.
5. Academic Probation
6. Counseling
7. Academic Suspension
8. Expulsion

Administration of Penalties (1.04)

Instructors assign penalties to the student based on the above criteria. Student appeals of the penalty will be directed to the appropriate Academic Supervisor, or, if necessary, to the Dean of Instruction.

Should the student's violation of the Academic Honesty Policy warrant probation, suspension, or expulsion, the matter will be referred to the **Admissions and Academic Appeals Committee**. **Appeals of penalties will be directed to the Vice Chancellor of Academic and Student Affairs.**

The complete Academic Misconduct policies and the Due Process Procedure (sections 1.05-1.06) are listed in the Student Handbook.